

DIRECT TESTIMONY AND EXHIBITS OF

ANTHONY SANDONATO

ON BEHALF OF

THE SOUTH CAROLINA OFFICE OF REGULATORY STAFF

DOCKET NO. 2020-2-E

IN RE: ANNUAL REVIEW OF BASE RATES FOR FUEL COSTS FOR

DOMINION ENERGY SOUTH CAROLINA, INC.

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND OCCUPATION.

A. My name is Anthony Sandonato. My business address is 1401 Main Street, Suite 900, Columbia, South Carolina, 29201. I am employed by the State of South Carolina as a Senior Regulatory Manager in the Energy Operations Division for the Office of Regulatory Staff (“ORS”).

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A. I received my Bachelor of Science in Nuclear Engineering from North Carolina State University in 2011. Prior to my employment with ORS, I was employed as an analyst with a global professional, technology, and marketing service firm working with large investor-owned utilities on energy efficiency program design and implementation. I joined ORS in 2016, and, in October 2019, I was promoted to my current position in the Energy Operations Division.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA (“COMMISSION”)?

A. Yes. I have previously testified before the Commission.

Q. WHAT IS THE MISSION OF THE OFFICE OF REGULATORY STAFF?

A. ORS represents the public interest as defined by the South Carolina General Assembly as follows:

[T]he concerns of the using and consuming public with respect to public utility services, regardless of the class of customer, and preservation of continued investment in and maintenance of utility facilities so as to provide reliable and high-quality utility services

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to set forth ORS's recommendations resulting from our examination and review of Dominion Energy South Carolina, Inc.'s ("DESC" or "Company") power plant operations used in the generation of electricity to meet the Company's retail customer requirements during the review period. The review period includes the actual data for January 2019 through December 2019 ("Actual Period"), estimated data for January 2020 through April 2020 ("Estimated Period"), and forecasted data for May 2020 through April 2021 ("Forecasted Period").

Q. WAS THE REVIEW PERFORMED BY YOU OR UNDER YOUR SUPERVISION?

A. Yes, the review to which I testify was performed by me or under my supervision.

Q. WHAT DID YOUR REVIEW OF THE COMPANY'S PLANT OPERATIONS INVOLVE?

A. ORS examined various fuel and performance related documents as part of our review. These documents addressed the Company's electric generation and power plant outage and maintenance activities. In preparation for this proceeding, ORS analyzed the Company's monthly fuel reports including power plant performance data, unit outages and generation statistics. ORS attended the April 26, 2019, Nuclear Regulatory Commission

1 (“NRC”) 2018 post-annual inspection meeting for the V.C. Summer Nuclear Station (“V.C.
2 Summer”).

3 **Q. WHAT ADDITIONAL STEPS WERE TAKEN IN ORS’S REVIEW OF THE**
4 **COMPANY’S PROPOSAL IN THIS PROCEEDING?**

5 **A.** ORS met with Company personnel from various departments to discuss and review
6 the Company’s electric generation, power plant outages and maintenance activities. These
7 meetings occurred at ORS offices as well as DESC facilities in Cayce, SC. In addition,
8 ORS monitors electric generation statistics through industry and governmental
9 publications.

10 **Q. DID ORS EXAMINE THE COMPANY’S PLANT OPERATIONS FOR THE**
11 **ACTUAL PERIOD?**

12 **A.** Yes. ORS reviewed the performance of the Company’s generation units to
13 determine if the Company made reasonable efforts to maximize unit availability and
14 minimize fuel costs. ORS also reviewed the operating statistics of the Company’s power
15 plants by unit. Exhibit AMS-1 shows, in percentages, the annual availability, capacity, and
16 forced outage factors of the Company’s major generation units during the Actual Period.
17 This exhibit also includes the North American Electric Reliability Corporation (“NERC”)
18 national five-year (2014-2018) averages for availability, capacity, and forced outage
19 factors for each type of generation plant.

20 **Q. PLEASE EXPLAIN HOW THE OUTAGES ARE REPRESENTED ON EXHIBITS**
21 **AMS-2 THROUGH AMS-4.**

22 **A.** Exhibits AMS-2 and AMS-3 summarize outages lasting seven (7) or more days for
23 major coal and natural gas units during the Actual Period, respectively. While not all plant

outages were included in these exhibits, all outages were reviewed and found to be reasonable by ORS. Exhibit AMS-4 shows the duration, type and cause of each of the outages at V.C. Summer. During the Actual Period, there were two (2) forced outages. ORS reviewed the outages, including associated NRC documents, discussed the outage with Company management, and determined that the Company responded appropriately. V.C. Summer operated efficiently with an average availability factor of 95.92% and an average capacity factor of 97.54% during the Actual Period.

Q. WHAT WERE THE RESULTS OF YOUR ANALYSIS OF THE COMPANY'S POWER PLANT OPERATIONS FOR THE ACTUAL PERIOD?

A. ORS's review of the Company's operation of its generation facilities during the Actual Period revealed that the Company made reasonable efforts to maximize unit availability and minimize fuel costs.

Q. DID ORS REVIEW THE COMPANY'S GENERATION MIX DURING THE ACTUAL PERIOD?

A. Yes. Exhibit AMS-5 shows the generation mix for the Actual Period by percentage and generation type. As shown in this exhibit, the nuclear, coal, and natural gas plants contributed an average of 22.13%, 22.52% and 47.66%, respectively, of the Company's generation throughout the Actual Period. This equates to approximately 92.31% of the Company's generation for the Actual Period. The remainder of the generation was met through a mix of renewables and purchased power.

Q. DID ORS EXAMINE THE COMPANY'S FUEL COSTS ON A PLANT-BY-PLANT BASIS FOR THE ACTUAL PERIOD?

1 **A.** Yes. Exhibit AMS-6 shows the average fuel costs for the major generation plants
2 on the Company's system for the Actual Period and the megawatt-hours ("MWh")
3 produced by those plants. V.C. Summer generation statistics reflect DESC's 2/3 ownership
4 of the plant. The chart shows the lowest average fuel cost of 0.967 cents/kilowatt-hour
5 ("kWh") at V.C. Summer and the highest average fuel cost of 4.560 cents/kWh at
6 McMeekin Station. The Company utilizes economic dispatch which generally requires
7 that the lower cost units be dispatched first.

8 **Q. DOES ORS RECOMMEND ANY ADJUSTMENTS TO THE FUEL FACTORS**
9 **PROPOSED BY THE COMPANY?**

10 **A.** No. ORS does not recommend any adjustments to the Fuel Factors based on the
11 Company's power plant operations.

12 **Q. WILL YOU UPDATE YOUR TESTIMONY BASED ON INFORMATION THAT**
13 **BECOMES AVAILABLE?**

14 **A.** Yes. ORS fully reserves the right to revise its recommendations via supplemental
15 testimony should new information not previously provided by the Company, or other
16 sources, become available.

17 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

18 **A.** Yes, it does.

Office of Regulatory Staff
Power Plant Performance Data
Dominion Energy South Carolina, Incorporated
Docket No. 2020-2-E

Plant	Unit	MW Rating	Actual Period Data		
			Average Availability Factor (%)	Average Capacity Factor (%)	Average Forced Outage Factor (%)
Cope		415	92.33	50.93	0.20
Wateree	1	342	61.27	37.36	0.21
Wateree	2	342	61.58	31.44	0.94
Williams		605	74.83	48.08	1.81
Coal Totals		1,704	72.50	41.95	0.79
NERC 5-year average (All Coal Plants)			83.00	54.69	5.09

McMeekin	1	125	85.24	35.05	3.45
McMeekin	2	125	82.58	33.70	0.00
Urquhart	3	95	78.61	5.46	3.56
Natural Gas Totals		345	82.14	24.74	2.34
NERC 5-year average (Natural Gas Plants)			81.62	11.55	5.25

Columbia Energy Center	1	142	90.60	78.93	0.15
Columbia Energy Center	2	142	88.89	76.77	0.78
Columbia Energy Center	3	235	91.40	58.20	0.11
Jasper	1	156	91.83	72.77	0.05
Jasper	2	164	90.83	75.48	0.11
Jasper	3	147	90.87	76.24	0.08
Jasper	4	385	92.36	57.48	0.06
Urquhart	5	162	92.56	42.15	1.61
Urquhart	1	64	92.37	51.08	1.69
Urquhart	6	168	92.67	36.25	1.86
Urquhart	2	64	92.64	45.09	1.89
CC ¹ Totals		1,829	91.55	60.95	0.76
NERC 5-year average (CC Plants)			87.91	53.59	2.34

V.C. Summer	1 ²	966	95.92	97.54	4.08
Nuclear Totals		966	95.92	97.54	4.08
NERC 5-year average (All Nuclear Plants)			92.40	91.38	1.48

¹ CC designates Combined-Cycle units

² V.C. Summer Unit Ownership: DESC (66.67%) and South Carolina Public Service Authority (33.33%)

Office of Regulatory Staff
Coal Unit Outages - 7 Days or Greater Duration
Dominion Energy South Carolina, Incorporated
Docket No. 2020-2-E

Unit	Date Offline	Date Online	Hours	Outage Type	Explanation of Outage
Cope 1	4/26/19	5/22/19	612.1	Planned	Unit take offline for planned Spring outage
Wateree 1	3/11/19	5/2/19	1,257.6	Planned	Unit taken offline for planned Spring outage
Wateree 1	9/9/19	12/6/19	2,116.7	Planned	Coal Handling Refurbishment
Wateree 2	2/18/19	5/16/19	2,089.0	Planned	Unit taken offline for planned Spring outage
Wateree 2	10/5/19	11/22/19	1,159.7	Planned	Coal Handling Refurbishment
Williams 1	3/8/19	3/29/19	501.7	Planned	Unit taken offline for planned Spring outage
Williams 1	10/17/19	12/20/19	1,545.0	Planned	Unit taken offline for planned Fall outage

Office of Regulatory Staff
Natural Gas Unit Outages - 7 Days or Greater Duration
Dominion Energy South Carolina, Incorporated
Docket No. 2020-2-E

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Unit	Date Offline	Date Online	Hours	Outage Type	Explanation of Outage
Columbia Energy Center 1	4/21/19	5/4/19	315.9	Planned	Unit taken offline for a planned Spring outage
Columbia Energy Center 1	10/4/19	10/22/19	421.2	Planned	Unit taken offline for a planned Fall outage.
Columbia Energy Center 2	4/21/19	5/3/19	308.2	Planned	Unit taken offline for a planned Spring outage
Columbia Energy Center 2	10/4/19	10/23/19	442.4	Planned	Unit taken offline for a planned Fall outage.
Columbia Energy Center 3	4/21/19	5/3/19	311.9	Planned	Unit taken offline for a planned Spring outage
Columbia Energy Center 3	10/4/19	10/22/19	422.7	Planned	Unit taken offline for a planned Fall outage
Jasper 1	3/30/19	4/19/19	484.8	Planned	Unit taken offline for a planned Spring outage
Jasper 1	9/24/19	10/3/19	212.1	Planned	Unit taken offline for a planned Fall outage
Jasper 2	3/30/19	4/18/19	459.8	Planned	Unit taken offline for a planned Spring outage
Jasper 2	9/24/19	10/3/19	207.0	Planned	Unit taken offline for a planned Fall outage
Jasper 3	3/30/19	4/19/19	491.6	Planned	Unit taken offline for a planned Spring outage
Jasper 3	9/24/19	10/3/19	200.6	Planned	Unit taken offline for a planned Fall outage
Jasper 4	3/30/19	4/18/19	461.5	Planned	Unit taken offline for a planned Spring outage
Jasper 4	9/24/19	10/3/19	202.4	Planned	Unit taken offline for a planned Fall outage

Office of Regulatory Staff
Natural Gas Unit Outages - 7 Days or Greater Duration
 Dominion Energy South Carolina, Incorporated
 Docket No. 2020-2-E

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Unit	Date Offline	Date Online	Hours	Outage Type	Explanation of Outage
McMeekin 1	4/6/19	4/17/19	255.2	Forced	Unit Forced Offline #2 Heater Drain Line Failed
McMeekin 1	11/1/19	12/12/19	990.5	Planned	Unit taken offline for a planned Fall outage
McMeekin 2	11/1/19	12/21/19	1,215.5	Planned	Unit taken offline for a planned Fall outage.
McMeekin 2	12/21/19	12/31/19	246.1	Planned	Unit taken offline for a planned outage
Urquhart 1	10/26/19	11/9/19	347.7	Planned	Unit taken offline for a planned Fall outage
Urquhart 2	10/25/19	11/3/19	227.0	Planned	Unit taken offline for a planned Fall outage
Urquhart 5	10/26/19	11/9/19	336.9	Planned	Unit taken offline for a planned Fall outage.
Urquhart 3 ¹	11/18/18	2/22/19	2,307.0	Outage Extension	Unit taken offline for planned Fall outage
Urquhart 3	2/24/19	3/5/19	217.0	Forced	Unit Forced Offline Oil Leaking Into Generator
Urquhart 3	5/1/19	5/11/19	252.0	Planned	Unit taken offline for planned Spring outage

¹ This outage began prior to the beginning of the Actual Period.

Office of Regulatory Staff
Nuclear Unit Outages
Dominion Energy South Carolina, Incorporated
Docket No. 2020-2-E

V.C. Summer Nuclear Station

Date Offline	Date Online	Hours	Outage Type	Explanation of Outage
11/7/19	11/20/19	322.7	Forced	Unit was forced offline due to Two Reactor Building Cooling Units failed and plant was manually shut down
11/28/19	11/30/19	37.0	Forced	Unit was forced offline due to Instrumentation tubing on Steam Generator Level transmitter cracked and plant was manually shut down

Office of Regulatory Staff
Generation Mix (Percentage)
Dominion Energy South Carolina, Incorporated
Docket No. 2020-2-E

2019											
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Total
Nuclear	24.11	26.93	27.56	27.52	21.59	20.67	18.60	19.34	20.55	24.97	22.13
Coal	33.69	27.90	10.44	19.31	25.39	20.74	23.51	24.60	23.73	14.26	22.52
Natural Gas	35.30	40.91	55.39	44.67	45.45	52.11	51.05	49.74	46.97	52.99	47.66
Hydroelectric	4.57	1.97	2.51	3.47	3.49	3.26	3.04	2.77	2.85	2.21	3.06
Solar	2.21	2.20	3.60	4.24	3.81	3.18	3.56	3.38	4.27	4.11	3.50
Wind	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Biomass	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Purchased Power	0.12	0.09	0.50	0.79	0.27	0.04	0.24	0.17	1.63	1.46	1.13

Numbers may not equal 100% due to rounding.

Office of Regulatory Staff
Generation Statistics for Major Plants
Dominion Energy South Carolina, Incorporated
Docket No. 2020-2-E

Plant	Fuel Type	Average Fuel Cost (¢/kWh) ¹	Generation (MWh)
V.C. Summer ²	Nuclear	0.966	5,502,476
Columbia Energy Center	Natural Gas	2.083	3,251,098
Jasper CC	Natural Gas	2.310	5,184,176
Urquhart #3	Natural Gas	3.584	45,623
Urquhart CC	Natural Gas	2.773	1,709,368
Wateree	Coal	3.541	2,061,246
Cope	Coal/Natural Gas	3.218	1,851,609
Williams	Coal	3.801	2,568,816
McMeekin	Natural Gas	4.560	752,842

¹ Includes Base Fuel and Environmental Costs.

² Generation Statistics for V.C. Summer represent DESC's 66.67% ownership.